

Abstract of the Disclosure

This invention relates to acetylene removal catalysts and their use in the hydrogenating of highly unsaturated hydrocarbons to less unsaturated hydrocarbons in an
5 olefin rich hydrocarbon stream in the presence of hydrogen and a catalyst composition under conditions effective to convert said highly unsaturated hydrocarbon to a less unsaturated hydrocarbon. Said catalyst composition comprises palladium, silver, potassium, and an inorganic support material, wherein the catalyst composition contains less than about 0.3 weight % potassium. In the presence of sulfur-containing impurities, the catalysts
10 of the present invention yield a much smaller increase in T1 (cleanup temperature) and higher ethylene selectivity is achieved.